

## CLAIMS

1. An evaporative cooler, comprising :  
an amount of water;  
5 an inorganic anti-microbial catalyst in contact with the water;  
a source of ultraviolet radiation capable of irradiating the catalyst.
2. An evaporative cooler according to claim 1 wherein the catalyst is titanium  
dioxide.  
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3. An evaporative cooler according to claim 1 or 2 wherein the source of ultraviolet  
radiation is natural sunlight.
4. An evaporative cooler according to any one of claims 1-3, which is a dew-point  
15 cooler.
5. A dew-point cooler according to claim 4, comprising :  
a first medium circuit and a second medium circuit, thermally coupled to the first  
20 medium circuit by a partition that is at least partially heat conducting, the circuits  
being able to carry respective first and second media, at least the second medium  
containing a gas, for example air, with a relative humidity of less than 100 % ;  
the partition having heat conducting surfaces which in at least the range of the  
secondary medium are at least partially coated with a hydrophilic coating, said  
25 coating being able to absorb and retain water and release the water by  
evaporation, such that the wetted coating and therefore also the heat conducting  
surfaces are cooled ;  
primary driving means for the primary medium;  
a humidification unit for humidifying the secondary medium by evaporation of  
30 water from the coating, such that the evaporated water which is carried away by  
the secondary medium extracts heat from the primary medium via the heat  
conducting partition;

wherein a water system, comprising the humidification unit and the coating, contains an amount of titanium dioxide and at least one ultraviolet source is provided for irradiating the titanium dioxide.

- 5     6.     Dew-point cooler according to claim 5, characterized in that the humidification unit further comprises a container for receiving the surplus non-evaporated water, the container being provided with piping to supply water from the container to the coating, as well as supply piping for supplying supplemental water, for example from the water supply system .
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7.     Dew-point cooler according to claim 6, characterized in that at least a part of the amount of titanium dioxide is situated in the container.
8.     Dew-point cooler according to claim 7, characterized in that the container has an interior surface, the titanium dioxide being provided on the interior surface.
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9.     Dew-point cooler according to any of claims 5-8, characterized in that the coating comprises a porous copolymer, a technical ceramic material, for example a fired layer, a cement such as a Portland cement, or a fibrous material, for example a mineral wool such as rock wool, and wherein titanium dioxide is added to the coating or wherein the coating essentially consists of titanium dioxide.
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10.    Dew-point cooler according to claim 9, characterized in that the coating consists entirely of titanium dioxide.
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11.    Dew-point cooler according any of claims 5-10, characterized in that the water system further comprises a water distribution tray for distributing water to the coating and wherein an amount of titanium dioxide is provided in the water distribution tray.
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